Entrepreneurial Orientation in Embedding Knowledge-Based Resources in the Organization

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Abstract: Knowledge is a key resource for an organization, serving as a source of sustainable differentiation and thus a competitive advantage. Knowledge-based resources are especially valuable to organizations because they are unique and protected against imitation. The advantages of knowledge-based resources mean that investments in these resources translate into benefits for the enterprise, especially when knowledge becomes an attribute of the company as a whole. The ability to embed knowledge in an organization depends on many factors, including those that directly shape the company's organizational culture. One of such factors may be entrepreneurial orientation as a strategic attitude of the firm presented in a given environment. The construct of entrepreneurial orientation should be treated as a multidimensional construct, where the dimensions are: autonomy, proactivity, competitive aggressiveness, innovation and risk taking. Research on the influence of organizational entrepreneurship on building the organization's knowledge resources is relatively rarely presented in the literature, which underlines the scientific contribution of the paper. The main aim of the paper is to study the impact of the level of entrepreneurial orientation on the level of knowledge-based resources embedded in the organization. The implementation of the goal was based on questionnaire surveys conducted in 2022, on the group of 355 enterprises in Poland. The respondents' opinions were diagnosed using a 5-point Likert scale. A managerial approach was used in the study, which constitutes a certain limitation of the research. The results of empirical studies were statistically analysed using tools such as factor analysis and multiple regression. The main research conclusions indicate a positive correlation, of moderate intensity, between the dimensions of entrepreneurial orientation and the level of knowledge-based resources, where the greatest impact was noted in the case of the following predictors: innovation and competitive aggressiveness. The research has implications for management practitioners who, by promoting entrepreneurial attitudes at the organizational level, can manipulate knowledge resources, especially in the area of HR.

Keywords: entrepreneurial orientation, corporate entrepreneurship, knowledge management, knowledge-based resources, perception

1. Introduction

The use of knowledge-based resources (KBR) by modern companies increases the possibility of identification and exploration the entrepreneurial opportunities (Basu et al, 2015). As unique resources that are difficult for competitors to imitate, KBR can make a significant contribution to improving the overall performance of an enterprise and provide a competitive advantage, and also condition the survival and development of new business ventures (Hansen, 2002). It is indicated that the firm's ability to achieve competitive advantage is largely dependent on the ability to collect, accumulate, integrate and, most importantly, use knowledge from the business environment in order to develop new products, services and processes (Yin & Jahanshahi, 2018).

The accumulation, combination and use of KBR is a prerequisite for entrepreneurial and innovative activities (Kaya & Patton, 2011). Possessing this type of knowledge allows enterprises to better predict the nature and commercial potential of market changes, and thus implement an appropriate set of strategic response actions (Caloghirou, Kastelli & Tsakanikas, 2004). This applies to both explicit (declarative) knowledge, obtained from formal education and training programs, and tacit (procedural) knowledge, which can be obtained through direct experience.

In the literature, many studies can be identified that indicate a positive relationship between knowledge management practices and corporate entrepreneurship (Mangenda Tshiaba et al, 2021). Therefore, entrepreneurs, and entire organizations with effective knowledge management practices achieve competitive advantages in terms of organizational and sustainable entrepreneurship. The effectiveness of these practices relates to the acquisition, sharing and application of knowledge within the organization, which then translates into the innovation and efficiency of the firm. The indicated dependence prompts researchers to conduct indepth research on the impact of an organizational knowledge resources on the intensification of entrepreneurial processes (Qader et al, 2022). However, the reverse relationship has not been fully recognized, i.e. whether entrepreneurial actions and behaviours are conducive to building a knowledge-based organization, described as one that has a chance of success in a turbulent economic environment. Meanwhile, according to the social cognitive theory, human perception is crucial for their behaviour, and people are both products and producers

of their environment, e.g. of the entrepreneurial internal environment of the organization. Hence, this article contributes to the literature by combining an entrepreneurial orientation (EO) perspective with a KBR perspective to argue that the different dimensions of EO contribute to building a knowledge-based organization.

2. Literature review

2.1 Knowledge-based resources in organisation

Organizational resources can be described as the assets and inputs needed to achieve organizational goals (Kaya & Patton, 2011). A resource refers to tangible or intangible contributions to activities that an organization owns and controls. In literature, the concept of resource is often equated with the concept of capability. Admittedly, organizational capability is a broader concept as it refers to the ability to perform a coordinated set of tasks using organizational resources in order to achieve a specific end result. However, in the area of knowledge management, where processes based on information and personal skills, developed through complex interactions between individual elements of the firm's resources, both concepts seem to be very similar in terms of content (Tsai & Jhang, 2010).

The knowledge base is an organisation's resource which seems to serve the most part today as a source of sustainable differentiation and thus a competitive advantage. Knowledge in an organization combines possibilities, capabilities, structured information and technological practices, thanks to which the enterprise can more accurately predict the nature and potential of business changes in the business environment and determine the adequacy of strategic and tactical actions (Wiklund & Shepherd, 2003). KBR are especially valuable as they are protected from imitation by creating barriers of knowledge. They include, among others talents that are elusive and whose relationship with the results is difficult to notice (Nieves, Quintana & Osorio, 2014). The way, speed and efficiency of using knowledge are the most important factors ensuring and maintaining the competitive advantage of the organization, and the imperfection in this respect is the main obstacle in achieving and creating the firm's competitiveness (Omerzel & Gulev, 2011).

From an organizational point of view, knowledge is not a resource accumulated only in the minds of individuals, but is embedded in procedures, processes or organizational structures and in social relationships created with stakeholders. The importance of embedding knowledge in the company and building a corporate knowledge base is emphasized so as to reduce the risk of losing knowledge embodied in units due to e.g. staff rotation (Nieves, Quintana & Osorio, 2014). If knowledge resources become an attribute of the organisation as a whole, and not of individual members of it, they build opportunities for development and success in the long term. Hence, KRB often distinguishes between three main types of intangible organizational resources: human resources, structural resources and relational resources. The first type refers to individuals in an organization and their attributes, which are: knowledge, abilities, skills, experience and innovation. In turn, the second type is intellectual property and infrastructure resources, while the third type is internal and external relations of the firm, including the relational capital of the organization (Krysińska et al, 2018). The enterprise uses these strategic resources to conceptualize, produce and deliver services or products to its customers. Currently, the priority is especially the highest quality human capital, because employees are a strategic and organizationspecific means by which firms develop and build relationships and networks (McDonnell et al, 2016). Therefore, top management must mobilize human capital for intra-organizational and inter-organizational integration so that knowledge is embedded and effectively transferred within the organization (Singh et al, 2021). Thus, organizational knowledge is more complex than material resources because it is a socially constructed, intangible resource. KBRs constitute a collective resource at the organizational level that results from the exchange and integration of knowledge of many individuals (Fang et al, 2018).

2.2 Entrepreneurial orientation

EO is an organizational attribute that connects entrepreneurial behaviour with firms 'strategic decision-making styles, methods, and practices (Yin, Hughes & Hu, 2021). EO orientation is crucial for building, integrating, and reconfiguring the internal and external environment so firms can survive challenging situations and helps foster entrepreneurial competencies and firm's success (Al-Omoush, 2021). EO is an important idea that is significantly added when formulating business strategies, regulations and decision making, further integrating the business approach to general behaviour (Abbas et al, 2021). The idea of EO is also associated with the firm's inclination to move towards new market opportunities (Wendra et al, 2019; Havierniková & Kordoš, 2019).

Krauss et al (2005) indicate that EO is a psychological construct that reflects the intentions and propensities of the main actors in an organization for entrepreneurial tasks and behaviours. It defines the decision-making style and organizational practices, is related to the formulation of the firm's strategy, and shapes the attitudes of individual members of an enterprise, as well as their behaviour (Kollmann & Stöckmann, 2014).

EO can be considered an intangible resource that is embedded in organizational procedures and dispersed among the members of the organization (Lisboa, Skarmeas & Saridakis, 2016). The purpose of EO is to implement in an organization the anticipatory capacity to initiate quick, creative and intelligent responses to adapt to changing market conditions and actively taking advantage of the opportunities. To develop innovative ability to adapt effectively to constantly changing conditions, it is necessary to implement the dimensions of EO, which gives the opportunity to discover and deal with both threats and opportunities in front of competitors (McGrath, 2001; Lemańska-Majdzik, 2019).

A construct is multidimensional when it consists of many related attributes. EO is such a construct, where there are several separate but related dimensions treated as one coherent theoretical concept (Law, Wong & Mobley, 1998). A significant number of researchers lean towards the five-dimensional structure of EO. For example, Voss, Voss, and Moorman (2005) define EO as a firm disposition to engage in behaviours reflecting risk taking, innovation, proactivity, autonomy, and competitive aggressiveness that lead to changes in the organization or market. Similarly, Pearce, Fritz, and Davis (2010) conceptualize the EO concept as distinct but related behaviours that are characterized by innovation, proactivity, aggressiveness, risk, and autonomy.

Firms that are simultaneously involved in specific dimensions of EO are usually seen as dynamic and flexible actors as they are well prepared to take advantage of new opportunities to bring future goods and services to the market (Purkayastha & Gupta, 2022).

2.3 Entrepreneurial orientation in knowledge-based resources building

KBRs are often used to identify and seize entrepreneurial opportunities as market and technological knowledge strengthen the relationship between EO and firm's performance (Wiklund & Shepherd, 2003). It confirms the positive interaction between KBR - such as market and technology knowledge - and the firm's entrepreneurial activity, which in turn translates into better results. Presenting a high level of market and technological knowledge is an important determinant of undertaking entrepreneurial corporate activities. Moreover, some authors emphasize that not only having extensive KBR, but also developing knowledge through organizational learning, can strengthen an important relationship between entrepreneurial activities and firm performance (Covin, Green & Slevin, 2006).

Corporate entrepreneurship requires constantly fresh, innovative perspectives, and KBR, firmly embedded in the enterprise, is often difficult to change. In the long perspective, such KBR can become a source of organizational rigidity, delaying the recognition of new opportunities, the development of new processes requiring innovative perspectives, and ultimately its entrepreneurial activity. In order for EO to be sustained, KBR must be constantly renewed and developed. Acquiring knowledge from relationships with other organizations is an important alternative to overcoming organizational inertia as it updates and enriches the KBR of an enterprise (Bojica & Fuentes, 2012).

Sometimes the literature it is suggested the reverse relationship, i.e. involvement in activities and entrepreneurial processes encourages learning the organization, expanding organizational knowledge (Wang, 2008). Such an assumption can be linked to assumptions by social cognitive theory, which explains how behaviour, cognitive and other personal factors, and environmental events act as determinants of interactions. Due to the bidirectional nature of this interaction, humans are both products and producers of their environment (Wood and Bandura, 1989). In addition, observational science and social experiences lead to personality development, creating a sense of self-efficacy. And the actions and reactions of an individual, including in the organization, are almost always influenced by actions observed in others (Bandura, 1988).

EO seems to be linked to KBR in direct and indirect way. The authors, explaining the relationship between organizational entrepreneurship and the firm's performance, point to the ability of internal entrepreneurship to expand the organization's KBR. Entrepreneurially oriented enterprises reconfigure resources, which entails the development of new knowledge. KBR is a link in the process by which corporate entrepreneurship contributes to the firm's performance as the firm's aspiration to be entrepreneurial contributes to enriching / broadening

the knowledge and skills of members of the organization (Simsek & Heavey, 2011). Thus, knowledge-based theory has the potential to explain the origin and maintenance of EO. It conceptualizes knowledge in terms of a process. While the organizational aspects of a firm may influence the creation of knowledge as a resource (Jiang, Wang & Jiang, 2019), the knowledge-building processes of an organization explain why a firm may adopt a particular organisational form and an accompanying set of behaviours, e.g. EO (Nickerson & Zenger, 2004) and further develop and implement organizational knowledge in structures and processes.

Based on these arguments and business environment observations, the main hypothesis states: Hypothesis 1: Firms that are more entrepreneurially orientated create higher level of knowledge-based resources.

3. Methods

The main aim of the paper is to study the impact of the level of EO on the level of KBR embedded in the organization.

To test main hypothesis, there was collected data from a sample of enterprises in Poland. The research was conducted in early 2022. The research procedure was carried out in stages, i.e. a questionnaire was prepared after an in-depth review of the literature. It consisted of two groups of questions. The first group concerned EO, and the research questions diagnosed the level of EO in each of the five dimensions, according to the classification initially introduced by Lumpkin and Dess (1996), i.e. organizational autonomy (EO1), proactivity (EO2), innovation (EO3), competitive aggressiveness (EO4) and risk taking (EO5). The second group of variables was to determine the level of KBR. It consists of nine sub-variables and the final KBR variable is the mean of the sub-variables. Considering the diversity of approaches to identifying KBR, it was decided to base on the approach proposed by Wiklund and Shepherd (2003) and Bojica and Fuentes (2012), and then appropriate modifications were made, taking into account the purpose of the research.

The selection of the research group was random and convenient. A direct method of data collection was used. After the initial formal analysis and elimination of incomplete or incorrectly completed questionnaires, it was diagnosed that the final research sample covers 355 Polish enterprises. Among the surveyed enterprises, 42.5% were micro-enterprises, 25.4% - small enterprises, 14.3% - medium-sized enterprises and 17.8% - large enterprises, classified according to the size of employment (in accordance with EU guidelines). The vast majority (80.0%) of the surveyed entities are mature firms that have been operating on the market for over 5 years.

The managerial approach was adopted. For all questions (relating both to EO and KBR), the 5-point Likert scale was used where 1 meant "definitely not" and 5 "definitely yes", as one of the most fundamental and frequently used psychometric tools in social sciences researches (Joshi et al., 2015). The reliability and validity of the research was investigated using Cronbach's α coefficient, average variance extracted (AVE) and composite reliability (CR). Then, multiple regression model was built to find the link between the independent variable (EO) and the dependent variable (KBR). The multiple regression analysis studies the simultaneous emotions that some independent variables have over one dependent variable, and it is commonly used for predicting and forecasting in management sciences (Turóczy & Liviu, 2012).

4. Results

The first step of research result analysis was determining the level of validity and reliability of the research (Tab. 1), as the concepts used to evaluate the quality of research. For a measure of internal consistency of a group of items a Cronbach's alpha was used. As the accepted value of Cronbach's alpha is 0.7, it should be indicated that for EO the level of Cronbach's alpha is satisfactory, and for KBR - high. To determine the accuracy of a measure, the validity tests: Composite Reliability (CR) and Average Variance Extracted (AVE) were calculated. Both tests obtained values exceeding the minimum acceptable values. Factor loading for all analysed factors are higher than 0,5 which means the lack of violation of the assumption for convergent validity based on average variance extracted.

Regression analysis was utilized for hypothesis 1 testing, and the descriptive statistics and correlations of the study's variables are presented in Table 2.

Table 1: Reliability and validity

Variable	Factor loading	Cronbach's α	CR	AVE
Knowledge-based	resources	0.91	0.91	0.52
KBR1	0.668			
KBR2	0.731			
KBR3	0.795			
KBR4	0.758			
KBR5	0.783			
KBR6	0.679			
KBR7	0.741			
KBR8	0.574			
KBR9	0.733			
Entrepreneurial o	rientation	0.78	0.83	0.50
EO1	0.650			
EO2	0.666			
EO3	0.787			
EO4	0.709			
EO5	0.717			

Initially, the correlations between predictors was identifying. Correlations between variables are statistically significant for the p <0.001, and can be described as modest, ranging from r = 0.28 to r = 0.46, which allow to assumed that regression analysis can be prepared correctly.

Table 2: Descriptive statistics and correlation analysis (n=355; p<0.001)

	Mean	S.D.	KBR	EO1	EO2	EO3	EO4	EO5
Knowledge-based resources (KBR)	3.45	0.69	1.00					
EO1	3.95	0.98	0.29	1.00				
EO2	4.05	0.96	0.33	0.37	1.00			
EO3	3.91	1.02	0.37	0.44	0.46	1.00		
EO4	3.59	1.28	0.35	0.28	0.28	0.43	1.00	
EO5	3.52	1.26	0.32	0.31	0.31	0.35	0.45	1.00

The trends in the impact of EO dimensions on KBR implantation in enterprises were assessed using multiple regression analyses. The KBR level was included as dependent variables in the regression. The summary of the multiple regression model (Table 3) confirmed that the entire model is statistically significant (p <0.05). Moreover, the whole model explained 33.2% of variation in the response, which seems to be a satisfactory result.

Within model, all predictors seem to have the positive influence on the KBR with statistical significance. The 100% increase of the particular EO predictors results in the increase from 8,0% to 11,9% of KBR level implemented in enterprise.

Table 3: Multiple regression model summary

D Causes	Adjusted R Square	Sum of Squares SS	df	Mean Square	Change Statistics		_	_	
R Square	Aujusteu k Square			MS	SS	df	MS	F	р
0.342	0.332	57.65	5	11.53	111.12	349	0.318	36.21	0.00

	Parameters estimates Sigma-restricted parameterization					
n=355	KBR Param.	KBR Std. Err.	t	р		
Intercept	1.555	0.156	9.963	0.000		
EO1	0.095	0.036	2.615	0.009		

	Parameters estimates Sigma-restricted parameterization				
n=355	KBR Param.	KBR Std. Err.	t	p	
EO2	0.094	0.038	2.443	0.015	
EO3	0.111	0.040	2.748	0.006	
EO4	0.119	0.029	4.076	0.000	
EO5	0.080	0.029	2.762	0.006	

5. Discussion

Previous studies clearly emphasize that knowledge management practices and entrepreneurship have a significant and positive relationship (Lam et al, 2021). Knowledge is considered an crucial means in the entrepreneurial process (Lattacher et al, 2021). The knowledge-based view implicitly assumes that because knowledge is a key competitive advantage, the higher the investment in knowledge, the greater the benefits for the enterprise. Researchers primarily focused on the assumption that effective knowledge management supports the organization in building KBR, which leads to the improvement of strategic management of the firm and supports the development of its entrepreneurial process (Reus, Ranft & Adams, 2009). Thus, empirically, the relationship has been proven, in which knowledge management and building KBR are conducive to building an entrepreneurial organization. However, it should be remembered that the mutual interdependence between perception, behaviour and action indicated in the social cognitive theory makes members of the organization both products and producers of their environment.

This paper focuses on a much less frequently discussed topic. First, it was recognized that the relationship between KBR and corporate entrepreneurship is two-way in nature. As indicated above, the influence of KBR on EO has been proven many times, while the influence of EO, as a multidimensional construct, on building and renewing KBR was much less frequently undertaken. Meanwhile, in this study, it was possible to confirm the impact of each of the dimensions of EO, i.e. autonomy, proactivity, organizational innovation, competitive aggressiveness and risk-taking in the organization on the development of KBR. This is consistent with previous considerations. For example, Scuotto et al (2022) have indicated that the spread of knowledge within organization is trigged by the entrepreneurial attitude of individuals sharing the enterprises' common aims and dynamic capabilities. In turn, Friesl (2012) has claimed that knowledge production processes constitute the basis for potential opportunities, and EO becomes the basis for the use of this knowledge. Based on this relationship, long-term strategic attitudes are created. According to Hughes et al. (2021), EO modifies organizational forms and stimulates organizational behaviour in order to better use the knowledge initially dispersed among people. Ultimately, this accumulates KBR within the organization. It is also assumed that EO is considered as a dynamic capability. Meanwhile, the dynamic possibilities of an entrepreneurial company may be limited by the KBR owned, prompting the enterprise to search for new information and gather knowledge in order to take advantage of attractive market opportunities. Entrepreneurial firms actively seek, develop and modify KBR, and all dimensions of EO can contribute for building organizational knowledge (Dung et al, 2021).

6. Future research directions and limitations

The conducted research is not free from limitations. Both the results and limitations of this research set the directions for future research. In the paper, a theoretical model was prepared and tested on the basis of data obtained from enterprises operating only in one domestic market. However, it should be remembered that individual markets may be highly specific, which reduces the possibility of generalizing the results to firms operating in the markets of other countries or in specific sectors. Hence, it would be valuable to carry out comparative studies in the future, which would allow the adopted hypothesis to be tested in other countries with a different level of the socio-economic development.

Another research limitation is the way in which the variables are assessed by the respondents of the questionnaire survey. A research tool was used with the application of a limited 5-point Likert scale, and the respondents were representatives of the managerial staff. Therefore, the measurement was subjective, and when analysing the results, one should bear in mind a small number of options in shaping one's own opinion. Moreover, this type of research on human perception in the organization management is not fully conclusive, but mainly indicates trends in a specific research area. It is also difficult to assume that these are the only determinants, hence full research would have to be very extensive. So, future research may seek a more

comprehensive assessment, i.e. for different groups of members of the organization, using a more extensive assessment scale, and deepen them in the form of qualitative research, e.g. in-depth interview.

Finally, it should be noted that this paper focuses on EO-KBR relationship, and there might be additional intervening actors and mechanisms. The study did not test the moderators of the indicated correlation, which are often discussed in different configurations for EO in the literature. In the future, research should be continued with more variables, including mediating or moderating variables. Additional unforeseen circumstances and boundary conditions that may shape the relationship between EDC and KBR building could also be diagnosed.

7. Conclusion and implications

Summarizing the research results, the two-way relationship between EO and KBR should be emphasized. Enterprises should therefore strategically stimulate corporate entrepreneurship, shaping entrepreneurial attitudes and behaviour of all members of the organization, and strive to create, implement and constantly strengthen the organization's KBR. It should be remembered that both analysed variables stimulate each other, which ultimately stimulates business performance. In this sense, the author has also enlarged previous studies which were mostly based on presentations of the influence of KBR on EO.

It can be assumed that the presented results are also important for the practice of entrepreneurship. Managers can apply the methodology used to assess the current levels of individual dimensions of EO in their enterprises in order to diagnose areas that require reinforcement. On the other hand, the constant KBR analysis will help to avoid the stiffness in knowledge resources that may arise if the organization considers these resources to be a constant value. Managers should also be inclined to treat the analysed quantities as dynamic capabilities that require ongoing adjustments and a strategic management perspective.

The implications for management practice are especially visible with regard to small business. In small firms, resources are often particularly limited, and their managers should be aware that acquiring knowledge is a resource-intensive process. KBR acquisition must be a particularly well thought-out process for small businesses. The advantages of building a knowledge-based organization are now undisputed, but managers must analyse and use the adequate tools to create the proper combinations of resources to use the acquired knowledge and translate it into better financial results.

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